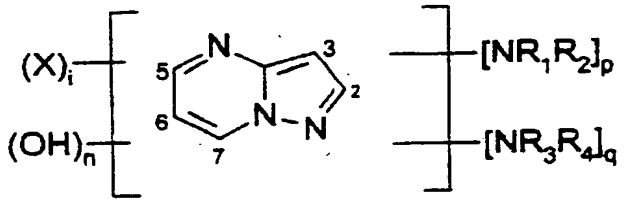
CLAIMS

1. Composition for the oxidation dyeing of keratinous fibres and in particular of human keratinous fibres, such as hair, characterized in that it comprises, in a medium appropriate for dyeing:

- at least one first oxidation base chosen from pyrazolo[1,5-a]pyrimidines of following formula (I) or their addition salts with an acid or with a base:



(I)

in which:

- R_1, R_2, R_3 and R_4, which are identical or different, denote a hydrogen atom, a (C_1-C_4)alkyl radical, an aryl radical, a hydroxy(C_1-C_4)alkyl radical, a polyhydroxy(C_2-C_4)alkyl radical, a (C_1-C_4)alkoxy(C_1-C_4)-alkyl radical, an amino(C_1-C_4)alkyl radical (it being possible for the amine to be protected by an acetyl, a ureido or a sulphonyl), a (C_1-C_4)alkylamino(C_1-C_4)alkyl radical, a di[(C_1-C_4)alkyl]amino(C_1-C_4)alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered aliphatic or heterocyclic ring), a hydroxy(C_1-C_4)alkylamino(C_1-C_4)alkyl radical or a di[hydroxy(C_1-C_4)alkyl]amino(C_1-C_4)alkyl radical;
- the X radicals, which are identical or different, denote a hydrogen atom, a (C_1-C_4)alkyl radical, an aryl

radical, a hydroxy(C_1-C_4)alkyl radical, a polyhydroxy(C_2-C_4)alkyl radical, an amino(C_1-C_4)alkyl radical, a (C_1-C_4)alkylamino(C_1-C_4)alkyl radical, a di[(C_1-C_4)alkyl]amino(C_1-C_4)alkyl radical (it being possible for the dialkyls to form a 5- or 6-membered aliphatic or heterocyclic ring), a hydroxy(C_1-C_4)alkylamino(C_1-C_4)alkyl radical, a di[hydroxy(C_1-C_4)alkyl]amino(C_1-C_4)alkyl radical, an amino radical, a (C_1-C_4)alkylamino radical, a di[(C_1-C_4)alkyl]amino radical, a halogen atom, a carboxylic acid group or a sulphonic acid group;

- i has the value 0, 1, 2 or 3;
- p has the value 0 or 1;
- q has the value 0 or 1;
- n has the value 0 or 1;

with the proviso that:

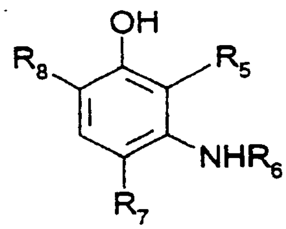
-(i) the sum p + q is other than 0;

-(ii) when p + q is equal to 2, then n has the value 0 and the NR_1R_2 and NR_3R_4 groups occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;

-(iii) when p + q is equal to 1, then n has the value 1 and the NR_1R_2 (or NR_3R_4) group and the OH group occupy the (2,3), (5,6), (6,7), (3,5) or (3,7) positions;

- at least one second oxidation base chosen from N,N-bis(β-hydroxyethyl)- para-phenylenediamine and its addition salts with an acid; and

- at least one coupler chosen from meta-phenylenediamines and meta-aminophenols of following formula (II) and their addition salts with an acid:



(II)

in which:

- R_5 and R_8, which are identical or different, represent a hydrogen atom, a halogen atom, such as chlorine, bromine, iodine or fluorine, or a (C_1-C_4)alkyl, monohydroxy(C_1-C_4)alkyl, polyhydroxy(C_2-C_4)alkyl, (C_1-C_4)alkoxy, monohydroxy(C_1-C_4)alkoxy or polyhydroxy(C_2-C_4)alkoxy radical;
- R_6 represents a hydrogen atom or a (C_1-C_4)alkyl, monohydroxy(C_1-C_4)alkyl, polyhydroxy(C_2-C_4)alkyl or amino(C_1-C_4)alkyl radical;
- R_7 represents a hydrogen atom, a (C_1-C_4)alkyl or (C_1-C_4)alkoxy radical or a halogen atom chosen from chlorine, bromine or fluorine;

it being understood that, when R_5 represents a chlorine atom and when R_6 and R_7 simultaneously represent a hydrogen atom, then R_8 is other than a methyl radical.

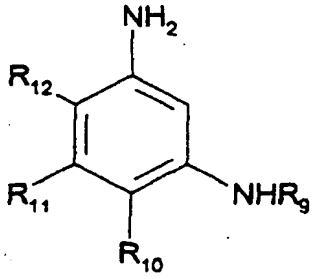
2. Composition according to Claim 1, characterized in that the pyrazolo[1,5-a]pyrimidines of formula (I) are chosen from:

- pyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2-methylpyrazolo[1,5-a]pyrimidine-3,7-diamine;

- 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- pyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 2,7-dimethylpyrazolo[1,5-a]pyrimidine-3,5-diamine;
- 3-aminopyrazolo[1,5-a]pyrimidin-7-ol;
- 3-amino-5-methylpyrazolo[1,5-a]pyrimidin-7-ol;
- 3-aminopyrazolo[1,5-a]pyrimidin-5-ol;
- 2-(3-aminopyrazolo[1,5-a]pyrimidin-7-ylamino)ethanol;
- 3-amino-7-(β-hydroxyethylamino)-5-methylpyrazolo-[1,5-a]pyrimidine;
- 2-(7-aminopyrazolo[1,5-a]pyrimidin-3-ylamino)ethanol;
- 2-[(3-aminopyrazolo[1,5-a]pyrimidin-7-yl)(2-hydroxyethyl)amino]ethanol;
- 2-[(7-aminopyrazolo[1,5-a]pyrimidin-3-yl)(2-hydroxyethyl)amino]ethanol;
- 5,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- 2,5,N-7,N-7-tetramethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;

and their addition salts with an acid or with a base.

3. Composition according to Claim 1 or 2, characterized in that the meta-phenylenediamines are chosen from the compounds of following formula (III) and their addition salts with an acid:



(III)

in which:

- R_9 represents a hydrogen atom or a (C_1-C_4)alkyl, monohydroxy(C_1-C_4)alkyl or polyhydroxy(C_2-C_4)alkyl radical;

- R_{10} and R_{11}, which are identical or different, represent a hydrogen atom or a (C_1-C_4)alkyl, monohydroxy(C_1-C_4)alkoxy or polyhydroxy(C_2-C_4)alkoxy radical;

- R_{12} represents a hydrogen atom, a (C_1-C_4)alkoxy, amino(C_1-C_4)alkoxy, monohydroxy(C_1-C_4)alkoxy or polyhydroxy(C_2-C_4)alkoxy radical or a 2,4-diamino-phenoxyalkoxy radical.

4. Composition according to Claim 3, characterized in that the meta-phenylenediamines are chosen from meta-phenylenediamine, 3,5-diamino-1-ethyl-2-methoxybenzene, 3,5-diamino-2-methoxy-1-methylbenzene, 2,4-diamino-1-ethoxybenzene, 1,3-bis(2,4-diaminophenoxy)propane, bis(2,4-diaminophenoxy)methane, 1-(β-aminoethyloxy)-2,4-diaminobenzene, 2-amino-1-(β-hydroxyethyloxy)-4-(methylamino)benzene, 2,4-diamino-1-ethoxy-5-methylbenzene, 2,4-diamino-5-(β-hydroxyethyloxy)-1-methylbenzene, 2,4-diamino-1-(β,γ-dihydroxypropyloxy)-benzene, 2,4-diamino-1-(β-hydroxyethyloxy)benzene, 2-amino-4-N-(β-hydroxyethyl)amino-1-methoxybenzene and their addition salts with an acid.

5. Composition according to Claim 1 or 2, characterized in that the meta-aminophenols are chosen

from meta-aminophenol, 5-amino-2-methoxyphenol, 5-amino-2-(β-hydroxyethyloxy)phenol, 5-amino-2-methylphenol, 5-N-(β-hydroxyethyl)amino-2-methylphenol, 5-N-(β-hydroxyethyl)amino-4-methoxy-2-methylphenol, 5-amino-4-methoxy-2-methylphenol, 5-amino-4-chloro-2-methylphenol, 5-amino-2,4-dimethoxyphenol, 5-(γ-hydroxypropylamino)-2-methylphenol, 3-amino-6-chlorophenol, 3-amino-6-bromophenol, 3-(β-aminoethyl)amino-6-chlorophenol, 3-(β-hydroxyethyl)amino-6-chlorophenol and their addition salts with an acid.

6. Composition according to any one of the preceding claims, characterized in that the pyrazolo[1,5-a]pyrimidine or pyrazolo[1,5-a]pyrimidines of formula (I) and/or the addition salt or their addition salts with an acid or with a base represent from 0.0005 to 12% by weight of the total weight of the dyeing composition.

7. Composition according to Claim 6, characterized in that the pyrazolo[1,5-a]pyrimidine or pyrazolo[1,5-a]pyrimidines of formula (I) and/or the addition salt or their addition salts with an acid or with a base represent from 0.005 to 6% by weight of the total weight of the dyeing composition.

8. Composition according to any one of the preceding claims, characterized in that N,N -bis(β-hydroxyethyl)- para-phenylenediamine and/or the addition salt or its addition salts with an acid

represent from 0.0005 to 12% by weight of the total weight of the dyeing composition.

9. Composition according to Claim 8, characterized in that N,N -bis(β-hydroxyethyl)- para-phenylenediamine and/or the addition salt or its addition salts with an acid represent from 0.005 to 6% by weight of the total weight of the dyeing composition.

10. Composition according to any one of the preceding claims, characterized in that the meta-phenylenediamine or meta-phenylenediamines and/or the meta-aminophenol or meta-aminophenols of formula (II) and/or the addition salt or their addition salts with an acid represent from 0.0001 to 10% by weight of the total weight of the dyeing composition.

11. Composition according to Claim 10, characterized in that the meta-phenylenediamine or meta-phenylenediamines and/or the meta-aminophenol or meta-aminophenols of formula (II) and/or the addition salt or their addition salts with an acid represent from 0.005 to 5% by weight of the total weight of the dyeing composition.

12. Composition according to any one of the preceding claims, characterized in that the addition salts with an acid are chosen from hydrochlorides, hydrobromides and sulphates and tartrates, lactates and acetates and in that the addition salts with a base are

chosen from those obtained with sodium hydroxide, potassium hydroxide, aqueous ammonia or amines.

13. Process for dyeing keratinous fibres and in particular human keratinous fibres, such as hair, characterized in that at least one dyeing composition as defined in any one of Claims 1 to 12 is applied to the said fibres and in that the colour is developed at acidic, neutral or alkaline pH using an oxidizing agent which is added only at the time of use to the dyeing composition or which is present in an oxidizing composition applied simultaneously or sequentially in a separate fashion.

14. Process according to Claim 13, characterized in that the oxidizing agent present in the oxidizing composition is chosen from hydrogen peroxide, urea hydrogen peroxide, alkali metal bromates, persalts, peracids and enzymes.

15. Dyeing multi-compartment device or kit with several compartments, a first compartment of which includes a dyeing composition as defined in any one of Claims 1 to 12 and a second compartment of which includes an oxidizing composition.

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